

REMARKS

Claims 1-2, 4-8, 10-23, 25-27, 29-31, 33, 36-41, and 48-52 are pending in the application, of which Claims 19-22 and 48-52 are withdrawn from consideration. Claims 1-2, 4-8, 10-18, 23, 25-27, 29-31, 33, and 36-41 are rejected. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

CLAIM OBJECTIONS

Claims 18, 26 and 31 stand objected to for certain informalities. Applicants have amended these claims according to the Examiner's suggestions. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

REJECTION UNDER 35 U.S.C. § 112

Claims 8 and 10-17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter. Applicants have amended Claim 8 to include the Examiner's suggestions regarding "a flat" and to clarify "the member." Claims 10-17 are dependent on Claim 8. Therefore, reconsideration and withdrawal of this rejection are respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 1, 4 and 5 stand rejected under 35 U.S.C. 102(b) as being anticipated by Muller (U.S. Pat. No. 4,633,560). In view of the amendments and comments herein, this rejection is respectfully traversed.

In rejecting the claims, the Office states that the Muller reference shows a weldable (intended use) fastener having an annular weldment area (140) having a flat weldable surface (48), said weldment area having a second thickness less than 50% of a first head thickness of a head (125, 126, 131, 130). Applicants respectfully traverse this characterization inasmuch as Muller clearly shows self-piercing and self-attaching fastener with associated die set. Applicants respectfully submit that Muller does not teach an annular weldment area as found in independent Claim 1.

In an effort to expedite prosecution, Applicants have amended independent Claim 1 to clarify that the weldable fastener is configured for welding to a metal surface. Further, Claim 1 has been amended to include the limitation "wherein said annular weldment area, said bottom surface, and metal surface define a non-welded cavity upon the welding of said annular weldment area to the metal surface." Applicants respectfully submit that the Muller reference does not teach this limitation.

REJECTION UNDER 35 U.S.C. § 103

Claims 8, 10-12, 14-18, 31, 33, and 36-41 stand rejected under 35 U.S.C. § 103(a) as being obvious over WO 03/042554 A1 in view of Bregenzer and Applicant submitted NPL. Claim 13 stands rejected as being obvious over WO 03/042554 A1 in view of Bregenzer and Applicant submitted NPL as discussed above, and further in view of Sherry et al. (U.S. Pat. No. 5,579,986). In view of the amendments and comments herein, these rejections are respectfully traversed.

In the rejection of the claims, the Examiner states, "it is irrelevant whether or not the weldment area has a second head thickness that is less than 50% and, preferably,

about 20-35% of the thickness between the top and bottom surfaces of the head prior to welding, as this limitation is required as a product-by-process limitation and is not given significant patentable weight.” Applicants respectfully traverse the Examiner’s characterization that this limitation is irrelevant inasmuch as the references clearly do not teach this limitation. Applicants submit that the failure loads are defined by material configurations and material properties. As such, the shape limitations are not “irrelevant.”

In an effort to expedite prosecution, Applicants have amended Claim 8 and its dependents to include the limitation, “said annular weldment defining a non-welded cavity between the bottom surface and the structure.” Similarly, Claim 18 has been amended to include the limitation, “said annular weldment defining a circular cavity defined between the web portion and the laminate.” Claim 31 has been amended to include the limitation, “said annular weldment area defining a cavity between the web portion and the laminate panel.” Applicants respectfully submit that none of the references cited expressly teach this non-welded cavity beneath the weld stud. As such, the rejections are improper.

Claims 1, 2, 4-7, 23, and 25-27 stand rejected as being obvious over Soyer (DE 42 22 664 A1). The Examiner states that it would have been obvious to those of ordinary skill in the art to experiment with relative dimensions and measure the thicknesses of the heads and weldment area because it has been held that changes in size is generally recognized as being within the level of ordinary skill in the art. Applicants respectfully traverses this characterization inasmuch as the cited reference does not teach the particular failure modes as disclosed in the specification. These

failure modes are a function of the fastener shape. Further, Applicants submit that the improved welding process parameters as shown in Figure 12 of the instant application are not disclosed in the prior art.

As discussed above, Applicants submit that the Soyer reference does not teach “defining a non-welded cavity upon the welding of said annular weldment area” as contained in Claim 1. Further, Applicants further submit that the Soyer reference does not teach an annular weldment section defining a circular non-welded cavity between the metal surface and the head upon the welding of the annular section to the weldment surface as in independent Claim 23. As such, Applicants submit the rejection under 35 U.S.C. § 103(a) is improper.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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